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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MIRZA, ADNAN M	

ART UNIT	PAPER NUMBER
2145	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/995,004	MACLEOD ET AL.	
	Examiner	Art Unit	
	Adnan M. Mirza	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-76 and 78* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-76 and 78* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/30/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-76,78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuah (U.S. 6,289,382) and further in view of Berg et al (U.S. 5,99,911).

As per claims Bowman-Amuah disclosed 1,19,37,55 in a distributed computing environment, a computer-implemented method for dynamically implementing workflow responsive to a directory object state change, the method comprising:: automatically mapping the state change to the object to a workflow comprising a set of tasks; and executing the tasks to achieve a desired state in the directory (col. 117, lines 24-37).

However Bowman-Amuah did not disclose in detail automatically detecting a state change to an object in a directory; and responsive to detecting the state change.

In the same field of endeavor Berg disclosed, the flow management engine for maintaining and updating the state of a workflow any change in the state of the workflow to other workflow manager systems operating on the same workflow. By updating the state of the workflow

instance in this manner all users working on the same instance of a workflow share the same view of the workflow (col. 7, lines 56-63).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated the flow management engine for maintaining and updating the state of a workflow any change in the state of the workflow to other workflow manager systems operating on the same workflow. By updating the state of the workflow instance in this manner all users working on the same instance of a workflow share the same view of the workflow as taught by Berg in the method of Bowman-Amuah to reduce the amount of deficiencies in terms of automating the processes such as detecting and monitoring changes to states, also performing and managing complex processes resulted in reducing latency issues.

3. As per claims 2,20,38,56 Bowman-Amuah-Berg disclosed wherein executing the tasks further comprises storing the desired state (Bowman, col. 101, lines 15-20).

4. As per claims 3,21,39,57 Bowman-Amuah-Berg disclosed wherein executing the tasks further comprises continuously executing ar operation of a task of the tasks until convergence of the desired state is identified (Bowman, col. 116, lines 47-63).

5. As per claims 4,22,40,58 Bowman-Amuah-Berg disclosed wherein executing the tasks further comprises storing a sequence of operations based on the tasks (Bowman, col. 117, lines 13-21).

6. As per claims 5,23,41,59 Bowman-Amuah-Berg disclosed wherein executing the tasks further comprises storing information corresponding to one or more directory objects to which the workflow applies (Bowman, col. 117, lines 13-12).

7. As per claims 6,24,42,60 Bowman-Amuah-Berg disclosed wherein executing the tasks further comprises storing status information based on respective status of at least one subset of the tasks (Bowman, col. 101, lines 26-38).

8. As per claims 7,25,43,61 Bowman-Amuah-Berg disclosed wherein mapping the state change to the object further comprises evaluating the state change to the object based on a declarative condition stored as a text string on an object instance of a content class defined by the directory schema (Bowman, col. 117, lines 40-47).

9. As per claims 8,26,44,62 Bowman-Amuah-Berg disclosed wherein a task of the tasks comprises any combination of a declarative condition or an operation that is stored as a text string on an object instance of a content class defined by the directory schema (Bowman, col. 115, lines 27-36).

10. As per claims 9,27,45,63 Bowman-Amuah-Berg disclosed wherein semantics of the workflow are based on a workflow schema (Bowman, col. 117, lines 24-39).

11. As per claims 10,28,46,64 Bowman-Amuah-Berg disclosed wherein mapping the state change to is the object, semantics of the mapping are based on an event association object schema (Bowman, col. 117, lines 4-10).

12. As per claims 11,29,47,65 Bowman-Amuah-Berg disclosed wherein executing the tasks at least one subset of the tasks are executed with respect to one another based on an order of execution relationship comprising a finish-start relationship, a parallel execution relationship, a precedence constraint relationship, or a task priority relationship (Bowman, col. 118, lines 26-42).

13. As per claims 12,30,48,66 Bowman-Amuah-Berg disclosed wherein executing the tasks at least one subset of the tasks is executed with respect to one another based on a precedence constraint relationship or a task priority relationship (Bowman, col. 118, lines 2-10).

14. As per claims 13,31,49,67 Bowman-Amuah-Berg disclosed wherein the method further comprises: monitoring a status corresponding to a task of the tasks; storing the status on a status monitoring object; and wherein a content class in the directory schema defines the status monitoring object (Bowman, col. 115, lines 48-54).

15. As per claims 14,32,50,68 Bowman-Amuah-Berg disclosed wherein the method further comprises: monitoring a set of directory resources affected by the workflow; storing the

directory resources on a status monitoring object; and wherein a content class in the directory schema defines the status monitoring object (Bowman, col. 101, lines 26-38).

16. As per claims 15,33,51,69 Bowman-Amuah-Berg disclosed wherein the method further comprises: monitoring a status corresponding to an operation of the workflow; determining that the status comprises a failure status; responsive to the determining, taking a corrective action to advance the workflow in view of the failure status; and wherein a content class in the directory schema defines the status monitoring object (Bowman, col. 117, lines 24-38).

17. As per claims 16,34,52,70 Bowman-Amuah-Berg disclosed wherein executing the tasks further comprises: updating a status corresponding to a task in the workflow; and responsive to the updating, evaluating the workflow to determine that a next task of the tasks to be implemented (Bowman, col. 115, lines 39-48).

18. As per claims 17,35,53,71 Bowman-Amuah-Berg disclosed wherein the tasks represent an inverse set of tasks that were previously performed as part of a different workflow (Bowman, col. 116, lines 38-47).

19. As per claims 18,36,54,72 Bowman-Amuah-Berg disclosed wherein the tasks implement a policy with respect to one or more directory resources, and wherein mapping the state change to the object further comprises automatically determining the workflow based on the policy (Bowman, col. 117, lines 1-12).

20. As per claim 73 Bowman-Amuah-Berg disclosed a computer-readable medium comprising a workflow enabled directory schema for automated work flow implementation by a set of computer-program instructions executable by a processor, the workflow enable directory schema comprising a plurality of base object content classes, comprising: a provisioning service content class to detect an event corresponding to a state change in a directory object (Berg, col. 7, lines 56-63); a workflow content class for storing a sequence of tasks; an event association content class for storing declarative conditions to map the state change to the directory object to an object instance of the workflow content class (col. 117, lines 1-13); and wherein the provisioning service content class is further configured to execute the sequence of tasks corresponding to the object instance (col. 116, lines 38-44).

21. As per claim 74 Bowman-Amuah-Berg disclosed wherein at least a subset of the base object content classes comprise a respective flexible attribute data field that indicates a data type, the data type being used to express various operational or data providing properties of the flexible attribute, the various operational or data providing properties being independent of the data type and independent of any modification to the workflow enabled directory schema (col. 115, lines 55-65).

22. As per claim 75 Bowman-Amuah-Berg disclosed wherein the sequence of tasks comprises any combination of a declarative conditions and operations corresponding to directory-based objects (col. 116, lines 53-63).

23. As per claim 76 Bowman-Amuah-Berg disclosed further comprising a status monitoring content class for storing a status of an object instance of the workflow content class (col.115, lines 27-36).

24. As per claims 78 Bowman-Amuah-Berg disclosed a computer-readable medium comprising a workflow enabled directory schema as recited (col. 117, lines 1-12).

Response to Arguments

Applicant's arguments filed 06/30/2006 have been fully considered but they are not persuasive. Response to applicant's arguments is as follows.

(A). Applicant argued that Office has failed to make out a prima facie case of obviousness because the motivation given by the office is too general"

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Berg in the method of Bowman-Amuah to reduce the amount of deficiencies in

terms of automating the processes such as detecting and monitoring changes to states, also performing and managing complex processes resulted in reducing latency issues.

(B). Applicant argued that Office has failed to make out a prima facie case of obviousness because the office has used hindsight reconstruction to combine Bowman and Berg.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

(C). Applicant argued that Bowman does not respond to a directory object state change therefore combination of prior art did not disclose, "A computer-readable medium comprising computer-executable instructions to implement workflow responsive to directory state change".

As to applicant's argument, Bowman disclosed, "Work flow management is frequently required in cooperation applications because the users are generally professionals, the flow of work in the organization is frequently highly variable, the application units of work (legal case, sales order)

are processed for long periods of elapsed time and work moves from one processing site to another. As data and application logic are split, better control is needed to track processing/data status across location (col. 117, lines 40-47).

Conclusion

25. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

26. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Adnan Mirza whose telephone number is (571)-272-3885.

27. The examiner can normally be reached on Monday to Friday during normal business hours. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571)-272-3933. The fax for this group is (703)-746-7239. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

28. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for un published applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866)-217-9197 (toll-free).

AM

Adnan Mirza

Examiner

JASON CARDONE
SUPERVISORY PATENT EXAMINER